REPORT OF PROGRESS IN BARBERRY ERADICATION FOR THE CALENDAR YEAR ENDED DECEMBER 31, 1926

By

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INTRODUCTION

In the nine years that the barberry-eradication campaign has been in progress more than 14,300,000 common barberries have been eradicated. This is a monumental record of plant-pest eradication.

The removal of these bushes has aided materially in reducing stem-rust losses of small grains. In the eastern States of the barberry-eradication area positive control of local epidemics of stem rust has resulted from the removal of the harmful barberries. A material reduction of the stem-rust losses from destructive epidemics in the spring-wheat States has followed the eradication of common barberries. In many localities in these more western States positive control has been effected.

The publicity activities have acquainted the public with the purpose and progress of the campaign and have resulted in gaining its confidence and cooperation. As a result, the owners and occupants of the properties on which barberries were found have given whole-hearted cooperation in survey and eradication. In many instances, valuable services in labor and chemicals for eradication have been given.

Educational activities in the grade schools, high schools, and colleges are being emphasized. The younger generation is being taught to know black stem rust and its relation to the common barberry. As a result of this educational program, future citizens are being trained to know and eradicate the harmful barberries and to prevent their reintroduction.

The results are only temporary, however, unless the campaign is carried to its satisfactory conclusion. A great many more barberries remain in the 13 States which comprise the eradication area. The preliminary survey has not yet reached 57 of the 920 counties it is necessary to survey. Only 209 counties have been covered by the second more intensive survey. Continued resurveys will be necessary to find and eradicate seedlings and sprouting bushes.

ORGANIZATION AND FUNDS

The barberry-eradication campaign is conducted by the Office of Cereal Crops and Diseases, Bureau of Plant Industry, U. S. Department of Agriculture, in cooperation with 13 north-central, grain-growing States. These are Colorado, Illinois, Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin, and Wyoming.

In each State, a State Leader and a corps of field agents carry out the various field operations. Collaborators, agents, and cooperators in the experiment station and extension divisions of the Agricultural Colleges and in the State Departments of Agriculture, and other interested organizations, aid in the eradication, investigational, and educational activities.

In 1926, there were used 46 full-time employees and 258 part-time agents in conducting the campaign. The field agents are employed during the summer months. Men with two or more years of college training in agriculture or related subjects usually are selected. Training in plant pathology, agronomy, or botany is required. Special attention is given to procuring men who not only are adequately trained but who have a real interest in the work. They also must have a correct ethical attitude toward scientific accuracy and honest public service. Men specially trained in news writing and publicity are valuable aids to the State Leaders in promoting the educational phases of the campaign. A premium is put on experience and ability. The more mature men with longer experience and proved ability in barberry eradication and in teaching agriculture are retained for several summers when possible.

All field men are required to master the necessary details of the scientific facts concerning stem rust and the common barberry. These men also must be able to identify other rusts of grains and to recognize barberries of all ages and sizes, in any environment. Training is given in methods of procedure in survey and eradication and in making contacts with property owners, officials, and business men.

Supervision in the field is under the direction of the State Leader in each State. An assistant leader aids in field supervision in some States. Squad leaders are placed in charge of small groups and are responsible for survey and eradication in the areas assigned to each squad. If an agent trained in newspaper writing and publicity is available, he promotes the publicity and educational phases under the direction of the State Leader, in cooperation with squad leaders.

Cooperation

Cooperation is had with the State Agricultural Colleges of all the above-named States and the State Departments of Agriculture of most of them. The Conference for the Prevention of Grain Rust provides funds and personnel for aiding in publicity and educational activities and establishing contacts with commercial, agricultural, and State organizations. This Conference is an organization composed of representatives of commercial, agricultural, educational, and investigational organizations of the 13 States.

State and county superintendents of public instruction, professors and instructors in universities, colleges, and normal schools, supervisors of teachers, and the teachers themselves in these States cooperate in the movement to teach the story of stem-rust control by barberry eradication to the rising generation.

Commercial organizations and local farm organizations, county agricultural agents and club leaders, State and county crop reporters, State, county, and township weed-control officials and the thousands of property owners whose properties are inspected for barberries usually cooperate whole-heartedly in the campaign.

Finances

The annual Federal appropriation for the fiscal year ending June 30, 1927, is $375,000. This is the same as for the past fiscal year. Of this amount, $75,000 became available only on the certification of contributions totaling an additional $75,000 by interested agencies in the 13 cooperating States. The total aid furnished in cash and services by State and other agencies for the present fiscal year is larger than the amount required to be certified and is estimated at approximately $88,000. Federal funds totaling $2,567,715 have been appropriated and allotted during the period from April 1, 1918, to June 30, 1927. State and other interested agencies have allotted approximately $652,887 in funds and services. This makes a total of $3,220,602 allotted to this campaign to June 30, 1927. Approximately $3,068,000 of Federal and State contributions combined has been expended to December 31, 1926.

INVESTIGATIONS

Three investigational phases of the barberry-eradication campaign are carried forward. These are (1) stem-rust epidemiology studies, (2) classification of barberry species, varieties, and hybrids, and (3) the inoculation of barberry species, varieties, and hybrids with stem rust.

Stem Rust Epidemiology Studies

Under the supervision of Dr. E. C. Stakman, Agent, University Farm, St. Paul, Minn., stem-rust epidemiology studies are being carried forward each year. These stem-rust studies include the investigation of the sources, time of appearance, prevalence, and spread of stem rust, and estimates of the damage done to small grains. These studies help to determine the aid rendered by barberry eradication in reducing stem-rust losses of small grain. Through these studies, the effect of barberries as local sources of stem rust is traced and the general stem-rust conditions in local areas of each State from year to year are determined. Information also is obtained as to stem-rust conditions in groups of States and in the whole United States.

The early appearance of stem rust on barberries, its subsequent spread to near-by grains and grasses, and its later spread in the form of more widespread epidemics are correlated as far as possible. Hundreds of instances of the spread of rust from common barberries to grains and grasses have been recorded. Many have been added during the past year. The members of the barberry-eradication force cooperate closely in this work. State collaborators and cooperators of the barberry-eradication States and of the surrounding States and Canada make observations and furnish data. The Office of Mycology and Disease Survey, Bureau of Plant Industry, U. S. Department of Agriculture, through collaborators in each State, collects and furnishes estimates of the losses from stem rust.

Farmers in many localities give valuable information concerning the occurrence of stem rust each year on individual farms. These reports are investigated. In many instances the harmful barberries have been located and eradicated. Through the reports of severe local outbreaks of stem rust in fields of grain, it has been possible to locate many scattered barberries and seedlings that have grown up along ditches, fence rows, and in near-by woodlands that would have been difficult to find by other means.

Invariably when all barberries are eradicated from local areas, stem rust ceases to be a serious menace to the growing of small grains. It is true that, in some of these areas, a late general spread of stem rust occurs in epidemic years, but the severe damage formerly caused by local barberries does not occur.

Classification of Barberry Species, Varieties, and Hybrids

A Berberis collection is being assembled at Bell, Maryland, by Mr. B. Y. Morrison, Associate Horticulturist. The Office of Horticulture and the Office of Cereal Crops and Diseases cooperate in the assembling, growing, and studying of this collection. An attempt is made to include the various species, varieties, and hybrids that are grown or are likely to be grown in the United States. These are studied, described, illustrated, and classified. Plants of species of unknown reaction to stem rust are propagated and sent to St. Paul, Minn., where this susceptibility is studied.

The following is a brief summary of Mr. Morrison's report for 1926:

> The work at Bell [Maryland] has been furthered by the cooperation of the Office of Foreign Plant Introduction through which office seed has been secured from the Royal Botanic Gardens at Kew, England, and Edinburgh, Scotland, of all species of barberries in those collections which are not represented already in our collection. Through them seed was obtained also from the Vilmorin Arboretum and from M. Pardé, Director of the Forestry School, at Les Barres, France. The Bell collection now contains 85 good species, 23 dubious species, and 11 hybrids of known parentage.
>
> From the one-year potted plants and the nursery 333 plants of 43 species were sent to University Farm, St. Paul, Minn.
>
> Sheets of illustrations are being prepared showing the life history of the different species from germination to fruiting. In this way it is possible to record very conspicuously the range of variations in the different stages of the plant's life.
>
> The work on the material for the monograph progresses, but is much more complete in some sections of the genus than in others.

Inoculation of Barberry Species, Varieties, and Hybrids with Stem Rust

The common barberry (Berberis vulgaris L.) and its horticultural varieties are not the only barberries that may carry and spread stem rust. The barberries known to be susceptible to this disease were listed by E. C. Stakman and M. N. Levine in "A Partial Report on the Susceptibility and Resistance of Berberis and Related Genera to Stem Rust," Cereal Courier 15: 278-287. September 30, 1923.

The investigation of the susceptibility of other barberries to stem rust is now carried forward by Mr. Ralph U. Cotter. In his report of December 31, 1926, 130 species, varieties, and hybrids are listed as on hand at University Farm, St. Paul, Minn. Of some, there is only one plant; of others, there are several. In 1925, seven species or varieties of barberries were first reported as infected. In 1926, 11 others were reported infected for the first time. The infections in 1926 resulted from 206 series of inoculations of various species and varieties of barberries with stem rust. The ones that failed to become infected on the first trial were inoculated several times, using telial material of different varieties of stem rust collected in different parts of the country.

The studies on the nature of the resistance of barberries to stem rust also are being continued.

PUBLICITY AND EDUCATION ACTIVITIES

Publicity activities always have been an important part of the campaign. Materials designed to inform the public how to identify both the common barberry and the stem rust are a part of all publicity. A special attempt is made to play up items of local importance in each community. Unusual findings of barberries and outstanding examples of the spread of stem rust from barberries are given local and State-wide emphasis. This necessitates an intensive use of news items, demonstrations, exhibits, window displays, radio broadcasts, and talks. Lantern slide series dealing with local and State problems supplement the talks. General and State problems and accomplishments also are shown by news articles, motion pictures, bulletins, circulars, posters, colored plates, and circular letters.

Barberry eradication must be permanent. The future generations should be taught that the common barberry has caused severe damage to small grain in the past and that it must not be allowed to exist or gain a foothold again in grain-growing areas. To accomplish this, the story of stem rust and the barberry is being taught to the rising generation through the public schools. Full cooperation has been volunteered by the State superintendents of public instruction in some States, and the county superintendents of schools are aiding in many counties. State universities, colleges, normal schools, and teachers' colleges are becoming enthusiastic about presenting this story to teachers. Teachers in vocational and other high schools, and in city and country grade schools are being furnished outlines and materials and are cooperating to a large extent in teaching their pupils about stem rust and the common barberry.

A Federal representative of barberry eradication, Mr. Noel F. Thompson, is maintained in the office of the Conference for the Prevention of Grain Rust. This office acts as the clearing house for publicity and education activities and cooperates by furnishing funds, invaluable services, and many materials not otherwise obtainable. Mr. Thompson, in his summary of the publicity and education activities of 1926, reports as follows:

> A very satisfying improvement was noted in the publicity and education activities carried on in 1926 over those of preceding years. The results also are becoming increasingly evident, both in the attitude of the public toward the campaign and in the actual aid rendered by individuals whose only contact has been through these activities.
>
> While these activities are correlated through the office of The Conference for the Prevention of Grain Rust, the major portion of the work is carried on directly by the State Leaders, and to them is due full credit for the success of this phase of the barberry-eradication campaign.
>
> The publicity activities are being conducted through newspaper articles, circular letters, demonstrations and exhibits, and radio talks. The preparation of bulletins and circulars and speaking at various public meetings are necessary adjuncts.
>
> The newspaper publicity for the most part was confined to news articles, and these, in general, were given to the local papers in the areas where survey is in progress. Over 1,300 such articles were printed in 1926. In addition, over 120 articles of wider news value were syndicated.
>
> The circular letter, if judiciously used, is very effective publicity. In the past, many of the State Leaders have sent these letters to every farmer in the areas where intensive survey was conducted. These letters, usually accompanied by a bulletin, are sent shortly in advance of the arrival of the field men, paving the way for the survey and making the work much easier and more effective. In 1926, for the first time, all the 13 States used this system, sending out over 147,000 letters.
>
> Letters also are being used to supply up-to-date and reliable information to a number of selected mailing lists. These lists include extension workers, legislators, weed inspectors, prominent and influential farmers, bankers, grain dealers, and other business men. In all, about 40 such lists were used in 1926 and each list was used an average of $2\frac{1}{2}$ times. Many of these lists will be enlarged and improved.

The demonstration is recognized as a valuable publicity feature and is used regularly in all 13 States. All the squads of field men are supplied with window-display outfits and these are placed in the towns of the areas being surveyed. Field demonstrations are staged where a well-defined spread of rust from a barberry is found. Street corner demonstrations are used in the evenings in some localities. Fair demonstrations or exhibits also are used regularly. During 1926, there were 71 field demonstrations, 372 window demonstrations, 150 street corner and miscellaneous demonstrations, and 126 fair demonstrations, making a total of 719 demonstrations for the year.

The radio was used to some extent in 1926. In addition to flashes sent out from Washington, the State Leaders supplied speakers or subject-matter for nine talks on the common barberry and stem rust.

Five new bulletins or circulars written in whole or in part by the State Leaders were published in 1926. Such publications are of special value since they supply detailed information in regard to the particular conditions within the State. They supplement the more general bulletins and circulars printed in Washington.

The State Leaders or their representatives spoke at 535 meetings in 1926.

Educational instruction about the common barberry and stem rust in the schools is becoming one of the major phases of our publicity and educational activities. Efforts are being made to have the story of black stem rust incorporated into the regular curriculum of as many schools as possible and preliminary efforts are meeting with considerable success. Teachers of rural schools, high schools, normal schools, and colleges are being supplied with study material, usually consisting of a lesson plan, colored charts, bulletins, and specimens of rusted barberries and grains. In many cases, these materials come to the public school teacher through her county or State superintendent of schools. During the school year 1925-26, such material was supplied to over 33,000 teachers as compared with 10,000 for the previous year. Attention is now being directed to the normal schools and other teacher-training schools so that the teacher may learn the story of the rust before reaching her school.

A summary of the publicity and education phases of the barberry-eradication campaign would not be complete without mention of the very important part played by the Conference for the Prevention of Grain Rust, an organization of business men, scientists, and farmers interested in the welfare of agriculture. This organization has supplied much of the demonstration material, such as window-display sets and special fair demonstration attractions. They also have furnished nearly all of the colored materials used in 1926, including colored plates, charts, and post-cards. Large numbers of mounted barberry specimens and considerable direct financial aid also have been furnished. Equally important has been the advice and encouragement received from this Conference.

SURVEYS

Three surveys are in progress. These are (1) the original or first survey, (2) the second survey, and (3) the resurveys. The first survey is almost completed. Almost 863 of the 920 counties necessary to survey have been covered. The second, or more intensive, survey is in progress and about 200 counties have been covered. Resurvey for eliminating sprouts and seedlings after the first and second survey is somewhat continuous. Portions of some counties covered by the second survey have been checked for overlooked bushes and seedlings developing since the second survey. It is apparent that additional surveys of some areas will be necessary.

Original Survey

The original survey, prior to 1926, for the most part was a rapid one for the purpose of destroying the greatest number of fruiting barberries in the shortest possible time. By the end of 1925, the original survey had been completed in all of the area except portions of Illinois, Michigan, Montana, and Ohio.

During 1926, the original survey was continued along the more intensive lines which are being used for second survey. Some areas, because of lack of settlement, or arid or forested conditions, may be excepted from survey, or only certain portions may be completely inspected. However, any original survey completed in these areas will be done intensively.

Second Survey

In the second survey, an attempt is made to eliminate every barberry bush and seedling from both city and rural properties. The yard and garden, hedges and fence rows, pasture lands, woodlots, woods, thickets, groves, parks, cemeteries, and all places where barberries may grow, are covered by a complete, intensive strip-by-strip survey. Only such portions of a property are excepted from survey as are actually cultivated, but uncultivated areas within cultivated fields also are inspected.

This method is used in covering all urban and rural properties on or near which fruiting barberries have been found. The history of settlement, type of agriculture, comparative number of barberries first planted, their later spread, the stem-rust history, results of preliminary surveys, and various ecological factors help to determine the extent of this survey.

In recently settled areas, brush lands, timbered flood plains, the cut-over timberlands, mountainous and arid districts, remote woodlands such as National Forests, and the grazing lands may be left for later survey, or not covered at all, as developments show necessary.

Resurvey

Resurvey is the revisiting of the properties from which barberries have been eradicated, in order to eliminate sprouts and to find and destroy seedlings. This activity includes the inspection not only of the property itself but of surrounding properties to which seeds may have been spread. If fruiting bushes have been found on the property or if the information about the planting is meager, the entire property and the surrounding properties are covered intensively for a sufficient distance to insure finding all scattered seedlings. The interval between successive resurveys is such that sprouts, overlooked small bushes, and seedlings will not have had time to produce seeds. This interval usually is three years or longer, depending upon conditions.

Areas of Escaped Barberries

Every property surrounding a fruiting barberry bush is potentially a part of an area of escaped bushes. A complete survey is made of the properties on which fruiting bushes have been found, and of the surrounding properties, to determine whether or not there is a spread of barberries. If either scattered bushes or seedlings are found, the full extent of the spread is determined by further survey.

Full records with maps are made of each area of escaped barberry bushes. In making the survey and mapping each area, definite landmarks are indicated. These are designated on the map with symbols and the same symbols usually are inscribed on the landmarks such as trees, fence posts, and large rocks. This method locates the permanent boundaries of the area as surveyed. If succeeding inspections show further spread of seedlings the added portions are included with additional markings.

One of the principal difficulties in complete eradication of all barberries is the finding and destroying of the scattered seedlings. Fruiting barberry bushes produce thousands of seeds. These seeds are scattered by birds and other agencies to surrounding properties. Just how far they may be carried has not been ascertained. It is certain that they have been carried at least three miles, and possibly further. Some of the seeds grow immediately. Some lie dormant for one to several years before germinating. Some seeds are known to have remained dormant at least seven years.

Seedlings have been found scattered in orchards, groves, woodlots, woodlands, brushy pastures, thickets, swamp lands, river-bottom undergrowth, brushy fence rows and pastures, windbreaks, stone fences and stone piles, and rock ledges.

In the older-settled portions of the barberry eradication area, where cultivated barberries were introduced 50 to 100 years ago, many more barberry seeds have been scattered than in the newly-settled areas. In some of the communities in these older-settled States, escaped bushes and seedlings may be found on almost every farm. Areas of escaped bushes and seedlings increase in size as the scattered seedlings grow into bushes and produce seeds which are scattered in turn. In this way, seeds may be sown over a whole township or even a larger area in the course of years.

Areas of escaped barberries are brought under control as soon as practicable after they are located. All fruiting bushes and all bushes likely to fruit within three years usually are destroyed in the first treatment. If the area is small, all findable seedlings also are destroyed. If the area is large, destruction of small seedlings sometimes is delayed until the second treatment as a great many of the seedlings may succumb in the meantime to adverse weather conditions. In eradicating barberries from areas of escaped bushes, seasonal conditions that make for easier survey and eradication are used to advantage.

The interval elapsing between treatments is not long enough for any seedling to grow into a fruiting bush. This interval varies from three to five years, or possibly longer, depending upon local conditions.

ERADICATION

Salt is recommended for use in killing barberries. Kerosene is used if more convenient to procure, or if the salt may be disturbed or eaten by animals. However, the action of the kerosene is very slow. Barberry bushes close to valuable plants or trees are dug or pulled, as the application of chemicals may damage the other plants. Seedlings and small bushes sometimes are pulled, as it often is more economical to do so than to treat them with chemicals. That chemical eradication is effective is shown by the few sprouts that develop where chemicals have been applied properly.

During the calendar year 1926, 558.67 tons of salt and 1,962 gallons of kerosene were applied to 212,222 barberry bushes and sprouting bushes, and 1,663,829 seedlings, on 2,555 properties. (Tables 13 and 15.)

A total of 928,838 bushes, sprouting bushes, and seedlings was dug or pulled from 1,602 properties in the course of the three surveys. These figures show a rather large number dug or pulled, but about half of these were small bushes pulled from one area of escaped bushes. The total number eradicated by all methods during the year was 2,804,839 bushes, sprouting bushes, and seedlings.

SUMMARIZED RESULTS

Summary for 1926

During the calendar year, about 20 counties were covered in the original survey (Tables 1 and 2) and approximately 42 counties were surveyed for the second time. (Tables 5 and 6.) Resurvey was made where necessary to eliminate sprouts and seedlings. (Tables 9 and 10.) Original bushes numbering 204,530 were found on 2,555 properties and 723,530 bushes were destroyed on 3,057 properties. (Tables 1 and 2.) These totals include 52,286 bushes found on the 1,412 properties in second survey. (Tables 5 and 6.) In resurvey 16,149 sprouting bushes were found and 16,504 were eradicated. (Tables 9 and 10.) Seedlings numbering 2,062,689 were found in the course of three surveys.

Summary for Nine Years

The first survey of cities, towns, and villages was nearly completed in the earlier years of this survey. The 13 States include 978 counties. In the nine years of the campaign from April 1, 1918, to December 31, 1926, an area equivalent to approximately 863 counties has been covered in the original or first survey. (Tables 3 and 4.) A few counties will not be surveyed because of late settlement, arid conditions, or location in National Forests. Of about 920 counties necessary to survey, there remain about 57 yet to cover in the first survey.

A second survey has been made in 209,28 counties. (Tables 7 and 8.) The resurvey has been continued on properties covered by original and second surveys, to the extent necessary to eliminate sprouts and seedlings. (Tables 11 and 12.) A resurvey has been combined with the second survey in a large number of counties.

Original bushes numbering 6,705,423 have been located on 75,005 properties. Of these, 6,636,594 bushes have been destroyed on 74,686 properties. In resurvey 306,804 sprouting bushes were found on 13,451 properties and 306,238 sprouting bushes were destroyed from 13,438 properties. In all surveys 7,371,627 seedlings were found and 7,368,266 were destroyed. These numbers include 117,377 bushes and 163,661 seedlings found, and 117,856 bushes and 163,661 seedlings destroyed, on second survey. This makes a grand total of 14,383,854 bushes, sprouting bushes and seedlings found, and 14,361,098 bushes, sprouting bushes and seedlings destroyed, in all surveys of the entire campaign. These data for the nine years are summarized in tables 3, 4, 7, 8, 11, 12, 14, 16, and 17.

Credit is hereby gladly given to State Leaders, collaborators, and agents who have supplied data, and to Mrs. M. S. Koepfle, who has compiled, summarized, and tabulated them.

ORIGINAL SURVEY, PROPERTIES, January 1 to December 31, 1926

Table 1. Data showing, by States, the number of properties on which barberry bushes were found and destroyed in all surveys, and the number of properties upon which seedlings were found and destroyed in the original and second surveys during the calendar year January 1 to December 31, 1926

State	Number of counties covered in original survey	Number of properties on which bushes were found				Total number of properties cleared of bushes			Number of properties on which seedlings were -			
		In cities and towns	In country		Total in cities and country	Dug	Treated	Total	Found	Destroyed		
			Having escaped bushes	Total						Dug	Treated	Total
Colorado	0	14	10	21	35	6	29	35	7	0	7	7
Illinois	4.15	333	218	367	700	413	287	700	67	55	12	67
Indiana	0	85	22	69	154	95	60	155	21	10	10	20
Iowa	0	58	93	162	220	64	156	220	29	12	17	29
Michigan	2.10	36	232	287	323	32	746	778	125	10	115	125
Minnesota	0	15	48	94	109	24	85	109	20	11	9	20
Montana	6.83	10	16	22	32	14	14	28	3	2	1	3
Nebraska	0	19	26	91	110	34	92	126	11	9	3	12
North Dakota	0	14	0	17	31	7	24	31	2	0	2	2
Ohio	6.80	94	235	364	458	205	278	483	131	14	121	135
South Dakota	0	14	29	74	88	12	76	88	4	1	3	4
Wisconsin	0	42	220	253	295	81	223	304	51	13	40	53
Wyoming	0	0	0	0	0	0	0	0	0	0	0	0
Total	19.88	734	1,149	1,821	2,555	987	2,070	3,057	471	137	340	477

ORIGINAL SURVEY, BUSHES AND SEEDLINGS, JANUARY 1 to DECEMBER 31, 1926

Table 2. Data showing, by States, the number of barberry bushes found and destroyed in all surveys, and the number of seedlings found and destroyed in original and second surveys during the calendar year January 1 to December 31, 1926

State	Number of bushes found--			Number of bushes destroyed:			Number of seedlings			
	In cities and towns	In country						Destroyed		
		Escaped	Total	Total	Dug	Treated	Total	Found	Dug	Treated	Total
Colorado	84	251	287	371	9	363	372	606	0	606	606
Illinois	995	39,694	40,486	41,481	13,051	28,430	41,481	26,794	25,336	1,458	26,794
Indiana	351	262	440	791	1,231	408	1,639	1,461	1,291	120	1,411
Iowa	1,669	6,633	8,646	10,315	857	9,458	10,315	109,594	103	109,491	109,594
Michigan	159	73,565	85,345	85,504	275	96,096	96,371	1,323,226	32,235	1,290,991	1,323,226
Minnesota	216	2,746	3,294	3,510	242	3,268	3,510	3,021	136	2,885	3,021
Montana	72	97	293	365	75	281	356	223	188	35	223
Nebraska	34	1,557	2,161	2,195	494	1,765	2,259	1,066	1,026	41	1,067
North Dakota	69	0	330	399	215	184	399	27	0	27	27
Ohio	1,509	36,763	37,817	39,326	4,203	39,871	44,074	174,367	2,971	172,586	175,557
South Dakota	76	365	665	741	74	667	741	143	1	142	143
Wisconsin	245	18,998	19,287	19,532	497,288	24,775	522,063	17,209	5,843	12,366	18,209
Wyoming	0	0	0	0	0	0	0	0	0	0	0
Total	5,479	180,931	199,051	204,530	518,014	205,566	723,580	1,657,737	69,130	1,590,748	1,659,878

ORIGINAL SURVEY, PROPERTIES, April 1, 1918, to December 31, 1926

Table 3. Data showing, by States, the number of properties on which barberry bushes were found and destroyed in all surveys, and the number of properties upon which seedlings were found and destroyed in original and second surveys, April 1, 1918, to December 31, 1926

State	Number of counties covered by original survey	Number of properties on which bushes were found-- In cities and towns	In country: Having escaped bushes	In country: Total	Total in cities and country	Total number of properties cleared of bushes: Dug	Treated	Total	Number of properties on which seedlings were-- Found	Destroyed: Dug	Treated	Total
Colorado	31.49	1,560	70	188	1,748	1,653	92	1,745	7	0	7	7
Illinois	74.00	10,956	1,278	3,291	14,247	12,559	1,688	14,247	260	202	58	260
Indiana	92.00	3,698	363	1,322	5,020	4,499	501	5,000	67	32	34	66
Iowa	99.00	7,108	856	2,857	9,965	9,095	868	9,963	90	37	53	90
Michigan	63.40	5,121	2,011	5,718	10,839	9,017	1,602	10,619	602	426	176	602
Minnesota	87.00	3,178	551	2,117	5,295	4,940	355	5,295	399	361	38	399
Montana	43.16	210	35	117	327	271	49	320	13	9	4	13
Nebraska	93.00	3,213	151	832	4,045	3,693	352	4,045	35	18	17	35
North Dakota	53.00	549	1	347	896	771	125	896	4	1	3	4
Ohio	78.65	7,828	1,101	3,212	11,040	9,769	1,247	11,016	324	55	269	324
South Dakota	69.00	504	149	696	1,200	819	381	1,200	95	85	10	95
Wisconsin	71.00	7,044	1,480	3,249	10,293	9,059	1,193	10,252	224	100	116	216
Wyoming	8.12	75	1	15	90	86	2	88	0	0	0	0
Total	862.82	51,044	8,047	23,961	75,005	66,231	8,455	74,686	2,120	1,326	785	2,111

ORIGINAL SURVEY, BUSHES AND SEEDLINGS, April 1, 1918, to December 31, 1926

Table 4. Data showing, by States, the number of barberry bushes found and destroyed in all surveys, and the number of seedlings found and destroyed in original and second surveys, April 1, 1918, to December 31, 1926

State	Number of bushes found--				Number of bushes destroyed:			Number of seedlings--			
	In cities: and towns:	In country		Total	Dug	Treated	Total	Found	Destroyed		
		Escaped	Total						Dug	Treated	Total
Colorado	19,681	2,912	5,124	24,805	23,917	884	24,801	606	0	606	606
Illinois	113,381	213,162	257,056	370,437	193,948	176,489	370,437	1,565,569	46,229	1,519,340	1,565,569
Indiana	77,821	104,125	119,365	197,186	99,045	98,100	197,145	10,077	2,268	7,759	10,027
Iowa	651,077	65,976	153,085	804,162	774,337	29,819	804,156	116,311	1,838	114,473	116,311
Michigan	54,143	431,499	513,061	567,204	367,123	188,031	555,154	2,260,070	893,793	1,366,277	2,260,070
Minnesota	592,708	84,689	196,758	789,466	780,820	8,646	789,466	25,325	19,842	5,483	25,325
Montana	6,985	1,958	4,673	11,658	10,097	1,359	11,456	3,985	2,210	1,775	3,985
Nebraska	73,119	7,955	24,592	97,711	91,165	6,546	97,711	10,246	3,876	6,370	10,246
North Dakota	14,548	150	8,265	22,813	19,850	2,963	22,813	183	150	33	183
Ohio	219,624	92,738	111,844	331,468	250,367	80,436	330,803	342,618	12,757	329,861	342,618
South Dakota	23,746	21,243	36,806	60,552	49,085	11,467	60,552	17,686	16,865	821	17,686
Wisconsin	281,243	3,130,314	3,142,542	3,423,785	3,350,377	67,716	3,418,093	63,049	29,556	30,207	59,763
Wyoming	3,947	1	229	4,176	3,972	35	4,007	0	0	0	0
Total	2,132,023	4,156,722	4,573,400	6,705,423	6,014,103	672,491	6,686,594	4,415,725	1,029,384	3,383,005	4,412,389

SECOND SURVEY, PROPERTIES, JANUARY 1 to DECEMBER 31, 1926

Table 5. Data showing, by States, the number of properties on which barberry bushes and seedlings were found and destroyed on second survey in the barberry eradication campaign during the calendar year January 1 to December 31, 1926

State	Number of counties surveyed	Number of properties on which bushes were found--				Total number of properties cleared of bushes			Number of properties on which seedlings were--			
		In cities and towns	In country		Total in cities and country	Dug	Treated	Total	Found	Destroyed		
			Having escaped bushes	Total						Dug	Treated	Total
Colorado	1.05	13	7	17	30	5	25	30	7	0	7	7
Illinois	4.21	247	211	316	563	315	248	563	60	48	12	60
Indiana	2.20	69	8	43	112	73	36	109	14	9	5	14
Iowa	7.63	33	56	108	141	36	105	141	14	4	10	14
Michigan	0	0	0	0	0	0	0	0	0	0	0	0
Minnesota	6.60	9	27	64	73	16	57	73	8	4	4	8
Montana	1.40	2	4	5	7	4	2	6	1	1	0	1
Nebraska	6.50	19	24	83	102	29	81	110	11	9	3	12
North Dakota	3.60	8	0	9	17	7	10	17	2	0	2	2
Ohio	0	0	0	0	0	0	0	0	0	0	0	0
South Dakota	6.37	14	29	74	88	12	76	88	4	1	3	4
Wisconsin	1.81	42	205	237	279	73	207	280	48	13	35	48
Wyoming	.60	0	0	0	0	0	0	0	0	0	0	0
Total	41.97	456	571	956	1,412	570	847	1,417	169	89	81	170

SECOND SURVEY, BUSHES AND SEEDLINGS, January 1 to December 31, 1926

Table 6. Data showing, by States, the number of barberry bushes and seedlings found and destroyed on second survey in the barberry eradication campaign during the calendar year January 1 to December 31, 1926

State	Number of bushes found--			Number of bushes destroyed				Number of seedlings--			
	In cities and towns	In country							Destroyed		
		Escaped	Total	Total	Dug	Treated	Total	Found	Dug	Treated	Total
Colorado	81	32	62	143	6	137	143	606	0	606	606
Illinois	761	39,491	39,994	40,755	12,667	28,088	40,755	16,248	14,790	1,458	16,248
Indiana	300	31	161	461	298	153	451	1,318	1,266	52	1,318
Iowa	381	1,203	2,598	2,979	569	2,410	2,979	103,035	32	103,003	103,035
Michigan	0	0	0	0	0	0	0	0	0	0	0
Minnesota	104	808	1,294	1,398	111	1,287	1,398	946	114	832	946
Montana	2	77	81	83	73	9	82	29	29	0	29
Nebraska	34	1,552	2,114	2,148	471	1,722	2,193	1,066	1,026	41	1,067
North Dakota	45	0	275	320	215	105	320	27	0	27	27
Ohio	0	0	0	0	0	0	0	0	0	0	0
South Dakota	76	196	496	572	71	501	572	143	1	142	143
Wisconsin	220	2,924	3,207	3,427	634	2,794	3,428	10,491	5,843	4,648	10,491
Wyoming	0	0	0	0	0	0	0	0	0	0	0
Total	2,004	46,314	50,282	52,286	15,115	37,206	52,321	133,909	23,101	110,809	133,910

SECOND SURVEY, PROPERTIES, January 1, 1922, to December 31, 1926

Table 7. Data showing, by States, the number of properties on which barberry bushes and seedlings were found and destroyed on second survey in barberry eradication campaign from January 1, 1922, to December 31, 1926

State	Number of counties surveyed	Number of properties on which bushes were found--				Total number of properties cleared of bushes			Number of properties on which seedlings were--			
		In cities and towns	In country		Total in cities & country	Dug	Treated	Total	Found	Destroyed		
			Having escaped bushes	Total						Dug	Treated	Total
Colorado	21.09	13	23	47	60	9	51	60	7	0	7	7
Illinois	4.85	322	242	375	697	421	276	697	85	72	13	85
Indiana	9.35	188	13	98	286	202	76	278	18	11	7	18
Iowa	21.63	74	178	326	400	123	276	399	40	7	33	40
Michigan	3.00	49	38	75	124	78	46	124	4	4	0	4
Minnesota	46.85	74	116	383	457	182	275	457	43	15	28	43
Montana	10.13	2	4	6	8	5	2	7	1	1	0	1
Nebraska	22.00	67	87	263	330	82	248	330	28	17	11	28
North Dakota	29.65	25	0	67	92	26	66	92	3	0	3	3
Ohio	2.00	18	0	7	25	24	1	25	0	0	0	0
South Dakota	25.87	43	40	167	210	33	177	210	8	5	3	8
Wisconsin	11.76	201	466	615	816	340	476	816	102	52	50	102
Wyoming	1.10	1	0	1	2	1	1	2	0	0	0	0
Total	209.28	1,077	1,207	2,430	3,507	1,526	1,971	3,497	339	184	155	339

SECOND SURVEY, BUSHES AND SEEDLINGS, January 1, 1922, to December 31, 1926

Table 8. Data showing, by States, the number of barberry bushes and seedlings found and destroyed on second survey in the barberry eradication campaign from January 1, 1922, to December 31, 1926

State	Number of bushes found--			Number of bushes destroyed			Number of seedlings--			
	In cities and towns	In country						Destroyed		
		Escaped	Total	Total	Dug	Treated	Total	Found	Dug	Treated	Total
Colorado	81	80	144	225	13	212	225	606	0	606	606
Illinois	1,216	84,645	85,789	87,005	18,534	68,471	87,005	18,800	17,017	1,783	18,800
Indiana	672	55	308	980	677	285	962	1,327	1,271	56	1,327
Iowa	532	2,277	4,632	5,164	1,073	4,089	5,162	105,522	1,067	104,455	105,522
Michigan	96	339	438	534	262	272	534	240	240	0	240
Minnesota	458	2,006	4,823	5,281	1,758	3,523	5,281	3,627	536	3,091	3,627
Montana	2	77	82	84	74	9	83	29	29	0	29
Nebraska	506	2,609	5,032	5,538	1,235	4,303	5,538	4,496	3,476	1,020	4,496
North Dakota	145	0	1,703	1,848	315	1,533	1,848	30	0	30	30
Ohio	59	0	31	90	88	2	90	0	0	0	0
South Dakota	344	334	1,759	2,103	324	1,779	2,103	828	686	142	828
Wisconsin	741	7,535	8,250	8,991	3,218	5,773	8,991	28,156	19,059	9,097	28,156
Wyoming	1	0	33	34	1	33	34	0	0	0	0
Total	4,853	99,957	113,024	117,877	27,572	90,284	117,856	163,661	43,381	120,280	163,661

RESURVEY, PROPERTIES, January 1 to December 31, 1926

Table 9. Data showing, by States, the number of properties on which sprouting bushes and seedlings were found and destroyed on resurvey in the barberry eradication campaign during the calendar year January 1 to December 31, 1926

State	Number of properties on which sprouting bushes were found--			Total number of properties cleared of sprouting bushes:				Number of properties on which seedlings were--			
		In country		Total in:					Destroyed		
	In cities and towns:	Having escaped bushes:	Total	cities & country:	Dug	Treated	Total	Found	Dug	Treated	Total
Colorado	11:	9:	16:	27:	4:	24:	28:	10:	1:	9:	10
Illinois	38:	86:	115:	153:	81:	72:	153:	91:	80:	11:	91
Indiana	16:	21:	46:	62:	38:	23:	61:	9:	3:	5:	8
Iowa	25:	43:	123:	148:	49:	99:	148:	63:	27:	36:	63
Michigan	10:	2:	2:	12:	8:	4:	12:	2:	2:	0:	2
Minnesota	29:	72:	137:	166:	55:	111:	166:	50:	30:	20:	50
Montana	6:	3:	4:	10:	7:	3:	10:	9:	8:	1:	9
Nebraska	14:	7:	48:	62:	25:	39:	64:	3:	2:	1:	3
North Dakota	48:	0:	44:	92:	20:	72:	92:	5:	0:	5:	5
Ohio	0:	0:	0:	0:	0:	0:	0:	0:	0:	0:	0
South Dakota	1:	2:	7:	8:	1:	7:	8:	5:	4:	1:	5
Wisconsin	19:	17:	34:	53:	22:	31:	53:	22:	11:	11:	22
Wyoming	0:	0:	0:	0:	0:	0:	0:	0:	0:	0:	0
Total	217:	262:	576:	793:	310:	485:	795:	269:	168:	100:	268

RESURVEY, SPROUTING BUSHES AND SEEDLINGS, January 1 to December 31, 1926

Table 10. Data showing, by States, the number of sprouting bushes and seedlings found and destroyed on resurvey in the barberry eradication campaign during the calendar year January 1 to December 31, 1926

State	Number of sprouting bushes found-				Number of sprouting bushes destroyed			Number of seedlings--			
	In cities and towns	In country							Destroyed		
		Escaped	Total	Total	Dug	Treated	Total	Found	Dug	Treated	Total
Colorado	31	43	74	105	7	99	106	216	4	212	216
Illinois	157	3,036	6,134	6,291	3,466	2,825	6,291	372,077	321,800	50,277	372,077
Indiana	34	163	220	254	93	160	253	806	431	350	781
Iowa	233	400	6,082	6,315	5,590	1,077	6,667	14,801	1,240	13,561	14,801
Michigan	13	25	25	38	25	13	38	5	5	0	5
Minnesota	111	969	1,372	1,483	331	1,152	1,483	2,065	1,379	686	2,065
Montana	15	2	18	33	19	14	33	60	37	23	60
Nebraska	162	124	579	741	160	584	744	367	267	100	367
North Dakota	220	0	210	430	85	345	430	99	0	99	99
Ohio	0	0	0	0	0	0	0	0	0	0	0
South Dakota	1	2	35	36	1	35	36	40	32	8	40
Wisconsin	80	293	343	423	71	352	423	14,416	6,651	7,765	14,416
Wyoming	0	0	0	0	0	0	0	0	0	0	0
Total	1,057	5,057	15,092	16,149	9,848	6,656	16,504	404,952	331,846	73,081	404,927

RESURVEY, PROPERTIES, April 1, 1918, to December 31, 1926

Table 11. Data showing, by States, the number of properties on which sprouting bushes and seedlings were found and destroyed on resurvey in the barberry eradication campaign from April 1, 1918, to December 31, 1926

State	Number of properties on which sprouting bushes were found--			Total number of properties cleared of sprouting bushes:			Number of properties on which seedlings were--			
	In cities and towns	In country: Having escaped bushes	In country: Total	Total in cities and country	Dug	Treated	Total	Found	Destroyed: Dug	Destroyed: Treated	Destroyed: Total
Colorado	1,442	114	193	1,635	1,416	219	1,635	102	19	83	102
Illinois	442	395	767	1,209	572	637	1,209	387	316	71	387
Indiana	178	136	266	444	305	134	439	48	14	33	47
Iowa	343	329	1,011	1,354	708	646	1,354	275	142	133	275
Michigan	146	114	289	435	375	60	435	191	187	4	191
Minnesota	736	612	1,295	2,031	1,630	401	2,031	2,241	2,114	127	2,241
Montana	123	6	56	179	163	16	179	23	20	3	23
Nebraska	211	26	413	624	363	261	624	33	14	19	33
North Dakota	295	0	223	518	243	275	518	6	0	6	6
Ohio	1,421	281	1,021	2,442	2,104	338	2,442	716	551	165	716
South Dakota	341	35	338	679	513	166	679	79	36	43	79
Wisconsin	913	655	946	1,859	1,344	511	1,855	274	168	106	274
Wyoming	32	0	10	42	31	7	38	7	7	0	7
Total	6,623	2,703	6,828	13,451	9,767	3,671	13,438	4,382	3,588	793	4,381

RESURVEY, SPROUTING BUSHES AND SEEDLINGS, April 1, 1918, to December 31, 1926

Table 12. Data showing, by States, the number of sprouting bushes and seedlings found and destroyed on resurvey in the barberry eradication campaign from April 1, 1918, to December 31, 1926

State	Number of sprouting bushes found--				Number of sprouting bushes destroyed--			Number of seedlings--			
	In cities and towns	In country							Destroyed		
		Escaped	Total	Total	Dug	Treated	Total	Found	Dug	Treated	Total
Colorado	3,827	2,023	3,160	6,987	5,148	1,839	6,987	3,672	712	2,960	3,672
Illinois	4,816	7,902	16,626	21,442	9,923	11,519	21,442	574,840	399,043	175,797	574,840
Indiana	1,529	16,871	18,310	19,839	17,592	1,941	19,533	4,296	719	3,552	4,271
Iowa	4,009	8,205	23,942	27,951	15,780	12,171	27,951	57,648	28,774	28,874	57,648
Michigan	524	1,194	2,418	2,942	2,231	711	2,942	607,434	547,349	60,085	607,434
Minnesota	14,039	17,413	36,832	50,871	40,690	10,181	50,871	28,097	4,402	23,695	28,097
Montana	3,557	5	1,647	5,204	5,070	134	5,204	1,069	399	670	1,069
Nebraska	6,172	249	10,415	16,587	12,564	4,023	16,587	3,060	1,243	1,817	3,060
North Dakota	854	0	1,260	2,114	281	1,833	2,114	100	0	100	100
Ohio	5,666	8,046	12,276	17,942	13,071	4,871	17,942	362,585	111,527	251,058	362,585
South Dakota	20,980	5,284	22,045	43,025	36,618	6,407	43,025	9,105	6,494	2,611	9,105
Wisconsin	11,244	75,129	80,081	91,325	19,440	71,704	91,144	1,303,943	136,941	1,167,002	1,303,943
Wyoming	546	0	29	575	475	21	496	53	53	0	53
Total	77,763	142,321	229,041	306,804	178,883	127,355	306,238	2,955,902	1,237,656	1,718,221	2,955,877

CHEMICAL TREATMENT, 1926

Table 13. Data showing, by States, the number of properties on which barberry bushes and sprouting barberry bushes were treated with chemicals, and the number of bushes, sprouting bushes, and seedlings treated from January 1 to December 31, 1926

State	Number treated--											
	With Salt			With sodium arsenite:			With Kerosene			Total		
	Properties	Bushes	Seedlings	Properties	Bushes	Seedlings	Properties	Bushes	Seedlings	Properties	Bushes	Seedlings
Colorado	48	428	818	0	0	0	5	34	0	53	462	818
Illinois	359	31,255	51,735	0	0	0	0	0	0	359	31,255	51,735
Indiana	66	462	427	0	0	0	17	106	43	83	568	470
Iowa	247	9,521	123,052	0	0	0	8	1,014	0	255	10,535	123,052
Michigan	750	96,109	1,290,991	0	0	0	0	0	0	750	96,109	1,290,991
Minnesota	194	4,401	3,571	0	0	0	2	19	0	196	4,420	3,571
Montana	17	295	58	0	0	0	0	0	0	17	295	58
Nebraska	46	1,281	40	0	0	0	85	1,168	101	131	2,349	141
North Dakota	96	529	126	0	0	0	0	0	0	96	529	126
Ohio	265	39,799	168,162	0	0	0	13	72	4,424	278	39,871	172,586
South Dakota	83	702	150	0	0	0	0	0	0	83	702	150
Wisconsin	254	25,127	20,131	0	0	0	0	0	0	254	25,127	20,131
Wyoming	0	0	0	0	0	0	0	0	0	0	0	0
Total	2,425	209,909	1,659,261	0	0	0	130	2,313	4,568	2,555	212,222	1,663,829

CHEMICAL TREATMENT, Sept. 1, 1921, to December 31, 1926

Table 14. Data showing, by States, the number of properties on which barberry bushes and sprouting barberry bushes were treated with chemicals, and the number of bushes, sprouting bushes, and seedlings treated from Sept. 1, 1921, to December 31, 1926

State	Number treated--											
	With salt			With sodium arsenite			With kerosene			Total		
	Properties	Bushes	Seedlings	Properties	Bushes	Seedlings	Properties	Bushes	Seedlings	Properties	Bushes	Seedlings
Colorado	303	2,640	3,566	0	0	0	8	83	0	311	2,723	3,566
Illinois	2,286	186,000	1,695,137	34	839	0	5	1,169	0	2,325	188,008	1,695,137
Indiana	618	99,935	11,268	0	0	0	17	106	43	635	100,041	11,311
Iowa	1,487	40,696	143,344	0	0	0	27	1,294	3	1,514	41,990	143,347
Michigan	1,286	117,961	1,298,813	239	8,594	29,911	137	62,187	97,638	1,662	188,742	1,426,362
Minnesota	727	18,698	29,046	25	85	102	4	44	30	756	18,827	29,178
Montana	65	1,493	2,445	0	0	0	0	0	0	65	1,493	2,445
Nebraska	435	8,219	7,483	0	0	0	178	2,350	704	613	10,569	8,187
North Dakota	379	4,729	133	21	67	0	0	0	0	400	4,796	133
Ohio	1,303	73,150	435,085	10	1,069	59,300	272	11,088	86,534	1,585	85,307	580,919
South Dakota	539	17,861	3,416	0	0	0	8	13	16	547	17,874	3,432
Wisconsin	1,353	133,595	1,195,507	350	5,824	1,702	1	1	0	1,704	139,420	1,197,209
Wyoming	9	56	0	0	0	0	0	0	0	9	56	0
Total	10,790	705,033	4,825,243	679	16,478	91,015	657	78,335	184,968	12,126	799,846	5,101,226

CHEMICALS, QUANTITIES USED, January 1, to December 31, 1926

Table 15. Data showing, by States, quantities of chemicals used in the barberry eradication campaign from January 1 to December 31, 1926

State	Salt (Tons) Furnished by--				Total	Sodium arsenite (Gals.) Furnished by--			Kerosene (Gallons) Furnished by--		
	Property owner	State agency	Conference: P.G. Rust	U.S.D.A.		Conference: P.G. Rust	U.S.D.A.	Total	Owner	U.S.D.A.	Total
Colorado	0	0	0	1.19	1.19	0	0	0	0	49.0	49.0
Illinois	0	.91	0	46.80	47.71	0	0	0	0	0	0
Indiana	.01	0	0	2.40	2.41	0	0	0	0	132.0	132.0
Iowa	.04	0	.54	34.74	35.32	0	0	0	3.5	314.5	318.0
Michigan	0	0	0	171.19	171.19	0	0	0	0	0	0
Minnesota	.75	0	0	11.92	12.67	0	0	0	0	17.0	17.0
Montana	0	0	0	.82	.82	0	0	0	0	0	0
Nebraska	0	0	0	2.94	2.94	0	0	0	1.5	1,156.5	1,158.0
North Dakota	2.50	0	0	.20	2.70	0	0	0	0	0	0
Ohio	.12	207.07	0	14.82	222.01	0	0	0	29.0	259.0	288.0
South Dakota	.26	0	0	4.99	5.25	0	0	0	0	0	0
Wisconsin	0	54.37	0	.09	54.46	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	0	0	0	0	0
Total	3.68	262.35	.54	292.10	558.67	0	0	0	34.0	1,928.0	1,962.0

Table 16. Data showing, by States, quantities of chemicals used in the barberry eradication campaign from Sept: 1, 1921, to December 31, 1926

State	Salt (Tons) Furnished by--				Total	Sodium Arsenite (Gallons) Furnished by--			Kerosene (Gallons) Furnished by--		
	Property owner	State agency	Conference: P.G. Rust	U.S.D.A.		Conference: P. G. Rust	U.S.D.A.	Total	Owner	U.S.D.A.	Total
Colorado	0:	0:	0:	5.16:	5.16:	0:	0:	0:	0:	80.0	80.0
Illinois	.75:	55.78:	31.00:	314.07:	401.60:	0:	77.0:	77.0:	0:	124.0	124.0
Indiana	.83:	0:	0:	58.45:	59.28:	0:	0:	0:	0:	132.0	132.0
Iowa	44.09:	0:	20.69:	92.58:	157.36:	0:	0:	0:	404.25:	314.50	718.75
Michigan	.03:	0:	8.49:	257.33:	265.85:	175.6:	129.3 :	304.9 :	0:	11,341.0	11,341.0
Minnesota	2.88:	.84:	9.21:	40.89:	53.82:	0:	23.25:	23.25:	0:	27.0[a]	27.0
Montana	.12:	0:	0:	5.05:	5.17:	0:	0:	0:	0:	0	0
Nebraska	.13:	0:	8.55:	19.23:	27.91:	0:	0:	0:	151.5 :	2,597.5	2,749.0
North Dakota	14.63:	5.00:	0:	4.88:	24.51:	0:	7.0 :	7.0 :	0:	0	0
Ohio	3.02:	342.48:	0:	23.37:	368.87:	16.2:	30.1 :	46.3 :	5,182.0*:	1,638.0	6,820.0
South Dakota	14.37:	0:	17.85:	9.79:	42.01:	0:	0 :	0 :	0:	22.0	22.0
Wisconsin	.25:	174.82:	70.00:	25.29:	270.36:	408.0:	190.0 :	598.0 :	0:	.375[b]	.375
Wyoming	.05:	0:	0:	.16:	.21:	0:	0 :	0 :	0:	0	0
Total	81.15:	578.92:	165.79:	856.25:	1,682.11:	599.8:	456.65:	1,056.45:	5,737.75:	16,276.375 :	22,014.125

[a] 10 gallons of drip oil

[b] carbon bisulphide

* 4,903 gallons furnished by State

GRAND SUMMARY, ORIGINAL BUSHES, SPROUTING BUSHES, AND SEEDLINGS, 1918 to 1926

Table 17. Data showing, by States, the number of bushes, sprouting bushes, and seedlings found and destroyed in all surveys in the barberry eradication campaign, April 1, 1918, to December 31, 1926

State	Original bushes		Sprouting bushes		Seedlings		Grand Total	
	Found	Destroyed	Found	Destroyed	Found	Destroyed	Found	Destroyed
Colorado	24,805	24,801	6,987	6,987	4,278	4,278	36,070	36,066
Illinois	370,437	370,437	21,442	21,442	2,140,409	2,140,409	2,532,288	2,532,288
Indiana	197,186	197,145	19,839	19,533	14,373	14,298	231,398	230,976
Iowa	804,162	804,156	27,951	27,951	173,959	173,959	1,006,072	1,006,066
Michigan	567,204	555,154	2,942	2,942	2,867,504	2,867,504	3,437,650	3,425,600
Minnesota	789,466	789,466	50,871	50,871	53,422	53,422	893,759	893,759
Montana	11,658	11,456	5,204	5,204	5,054	5,054	21,916	21,714
Nebraska	97,711	97,711	16,587	16,587	13,306	13,306	127,604	127,604
North Dakota	22,813	22,813	2,114	2,114	283	283	25,210	25,210
Ohio	331,468	330,803	17,942	17,942	705,203	705,203	1,054,613	1,053,948
South Dakota	60,552	60,552	43,025	43,025	26,791	26,791	130,368	130,368
Wisconsin	3,423,785	3,418,093	91,325	91,144	1,366,992	1,363,706	4,882,102	4,872,943
Wyoming	4,176	4,007	575	496	53	53	4,804	4,556
Total	6,705,423	6,686,594	306,804	306,238	7,371,627	7,368,266	14,383,854	14,361,098